

REMARKS

The Examiner is respectfully requested to reconsider and withdraw the rejection to claim 32 because it sets forth that claim 17 is directed to a process. Claim 32 has been amended to correct editorial oversights and be dependent on claim 18, a process claim. Claims 51-54 have been amended to more particularly point out and distinctly claim the invention. Support for these amendments can be found on page 28, line 17 - page 29, line 4. Claim 55 has been added to more particularly point out and distinctly claim the invention. Support for this claim can be found on page 28, line 17 - page 29, line 4.

The Examiner is respectfully requested to reconsider and withdraw the rejection of claims 53 and 54 under 35 U.S.C. 102(b) as being anticipated by U.S. 4,634,515. The present invention, as claimed in claims 53 and 54, claims a cracked-gasoline or diesel fuel that is patentably distinct from what is disclosed in the '515 patent. Page 24, lines 13-19 of the present invention teach that the sulfur of the resultant hydrocarbon containing fluid is preferably less than 80-ppm sulfur by weight. Further, page 28, line 17 - page 29, line 4 teaches that the addition of hydrogen, as claimed in claims 51-55 of the present invention, interferes with any possible chemical or physical reacting of the olefinic and aromatic compounds. Thus, the addition of hydrogen inhibits the decrease, or increase, in olefinic and aromatic compounds.

The Examiner is respectfully requested to reconsider and withdraw the rejections of claims 1-17 under 35 U.S.C. 103(a) as being obvious over U.S. 5,726,117 in view of U.S. 4,634,515. The Examiner points to Example 1 of the '117 patent as disclosing an allegedly similar sorbent system which has been steam treated. However,

as the Examiner notes the '117 patent is primarily directed to removing hydrogen sulfide.

The Examiner points to various citations in the '515 patent, which also deal with hydrogen sulfide removal which state that nickel is in a reduced or metallic state.

Applicant respectfully suggests that the '117 and '515 patents either alone, or in combination, if properly combinable, do not disclose or suggest the invention as presently claimed.

As the Examiner has correctly pointed out, the '117 patent is directed to removal of hydrogen sulfide with a catalyst, or sorbent, system that uses a zinc oxide and nickel oxide supported on the alumina. Further, as the Examiner has noted the present invention, in all claims, requires that the promoter be a reduced valence. The '515 patent teaches nickel adsorbents with a higher fraction of the total nickel present a reduced or metallic state, column 7, lines 10-12, but does not disclose or suggest any steam treatment. Thus, neither patent, alone, discloses the presently claimed invention. Further, there is no teaching to properly combine the two patents. Neither patent, alone or in combination teach that the sorbent or adsorbent can be regenerated and have an increased attrition resistance.

Advantages of the presently claimed invention, in addition to being a regenerable sorbent, include a sorbent composition with a higher attrition resistance. The steam treatment, in combination with the reduced valence promoter, as claimed in all claims, provides a novel sorbent composition.

The Examiner is respectfully requested to reconsider and withdraw the rejection of claims 18-33 under 35 U.S.C. 103(a) as being unpatentable over U.S. 5,726,117 in view of U.S. 5,634,515. As the Examiner points out, one difference between the presently claimed invention and the '117 patent is the formation of zinc silicate and/or

zinc aluminate. Additionally, the reduction step, as claimed in all claims of the present invention, is a patentable improvement over the '117 patent.

It appears to Applicant that the Examiner is using hindsight to apply the '117 and '515 patents to the presently claimed invention. The Examiner argues that one of ordinary skill in the art would modify the process for making the sorbent in the '117 patent by adding the reducing step of the '515 patent. As the Examiner notes, the art of catalysis is unpredictable. Thus, the use of steam treatment or addition of water to improve the attrition resistance is not an obvious variant when dealing with a metal that is either in a substantially reduced or metallic state as compared to metal oxide.

The Examiner is respectfully requested to reconsider and withdraw the rejection of claims 34-54 under 35 U.S.C. 103(a) as being unpatentable over U.S. 4,634,515 in view of U.S. 5,726,117. Again, the Examiner alleges that Examples 3 and 4 of the '515 patent are an obvious variation of the present invention. However, as the Examiner a note, the presently claimed invention requires the use of a sorbent having steam treated support and the '515 patent does not disclose or suggest use of steam treated support. Even though the '117 patent discloses steam treatment, the '117 patent does not disclose or suggest reduction of a promoter in order to provide a regenerable sorbent, wherein the sorbent not only removes hydrogen sulfide but *numerous other sulfur compounds*, as taught on page 26, line 5-line 19.

Applicant also notes art made of record, U.S. 4,045,371 and U.S. 4,002,270 but agrees with the Examiner that these do not disclose or suggest the presently claimed invention.

In view of the foregoing remarks and amendments, reconsideration and allowance of all claims are respectfully requested.

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Respectfully submitted,

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